UNIX SOFTWARE LICENSING ISSUES

PREPARED FOR

BELL LABS

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INPUT

CURRENT SITUATION

o License to

  - Computer vendors (e.g., IBM, Fortune)

  - Software houses (e.g., Microsoft, Unisoft)

o Problems

  - Too many potential licensees for economical marketing, support and validation.

  - Small licensee problem:

    . Consume disproportionate amounts of Bell Lab resources and expect fast response

    . Possible legal problems in denying license status to any vendor, especially if denial based on size.

CURRENT ROYALTY APPROACH

o   Under current licensing, unit royalties increase in proportion to the number of users of a target system, and are discounted based on cumulative royalty payment volume. (See Exhibit A).

o   Two current licensees have attained the $1 million discount level and perhaps 3 are in the upper region of the under $1 million level.

o   When the current pricing discount schedule was introduced in November 1981, licensees of the older Version 7 were not permitted to carry forward their cumulative dollar voluem credits: All vendors, old and new, were "set back to zero".

o   Royalties from Non-UNIX products (e.g., "C" language licensing) are credited toward dollar volumes.

o   Current schedule assumes relatively modest sales levels. (Exhibit B)

EXHIBIT A

CURRENT UNIX
SUBLICENSING ROYALTIES (PER UNIT)

NUMBER OF USERS IN TARGET SYSTEM	CUMULATIVE ROYALTY PAYMENTS ($MILL.)		
	UNDER $1.0	$1.0-2.5	OVER $2.5
1*	$ 100	$ 70	$ 40
2-16*	$ 250	$125	$ 50
17-33	$ 750	$500	$250
34-64	$3,500	------------------------	
64 +	$7,000	------------------------	

*MICROCOMPUTER CATEGORIES: Primary focus of this study.

EXHIBIT B

UNITS SOLD AT CURRENT PRICING

	BREAKPOINTS		
	UNDER $1.0 MILL	$1.0 – 2.5 MILL	OVER $2.5 MILL
Weighted royalty per unit	$130	$60	$42
Units Sold (000)			
– Within breakpoint	$ 7.5	$25	$59*
– Cumulative	$ 7.5	$32.5	$91.5*

*at $5 million in royalties

PLANS

o   Goal: "pervasiveness"

o   Principal approach: License UNIX to microprocessor
    manufacturers

    -    Microprocessors are growth area/battleground

    -    Discussions with Motorola, Intel, National Semi

o   Licensing to microprocessor manufacturers would bypass
    many of the problems associated with current licensing
    focus (computer and software vendors).

o   Potential advantages: volume, standarization and
    competitive positioning vis-a-vis competitive operating
    systems.

o   Intel is key target.

INTEL: KEY TARGET

UNIX UNIT SALES 1984 + 1985 (000)

CHIP TYPE	NO CHIP MFR COOPERATION	INCREMENT FROM COOPERATION AT PENETRATION OF:	
		10%	25%
INTEL	180	460	1,150
MOTOROLA	496	50	125
TOTAL	676	510	1,275

SOURCE: Bell Labs

PRICING ISSUE

o   Bell Labs wishes to make a wide-scale offering of UNIX by
    microprocessor manufacturers as attractive as possible.

o   To start microprocessor manufacturers on the bottom of the
    present discount scale would make them initially
    uncompetitive with current vendors.

o   To "set back to zero" twice in two years would shake the
    confidence in all vendors in Bell Labs as reliable supplier
    (i.e., licensees being able to make medium-term assumptions
    that Bell Lab prices would not be arbitrarily increased).

o   Dollar volumes from other products would no longer be
    created for UNIX discount purposes.

o   Future growth of microcomputer market will swamp pre-
    1983 UNIX royalty revenues.

UNIX ROYALTY GROWTH ($ MILL)

Pre-1983	$ 10 (approx.)
1983	6
1984-86	70
TOTAL	$ 86

SOURCE: Bell Labs

OPTIONS

o   No change.

o   "Reset to zero" - no price changes.

o   Reset to zero - reduce microcomputer prices.

o   Reduce microcomputer per unit prices (no reset to zero).

o   Add one or more dollar volume discount categories.

o   Based discount dollar volumes on a specific time period
    (e.g., one year), rather than be cumulative.

o   Allow dollar volumes to be far contracted (i.e., future)
    volumes rather than actual (i.e., past) volumes.

ANALYSIS OF OPTIONS
(UNDERLINING = CRITICAL ISSUE)

OPTION	POSITIVE EFFECTS	NEGATIVE EFFECTS
No Change	o Keeps business relationships stable between Bell Labs and licensees	o Discourages new entrants
Reset clock to zero—no price change	o Places new entrants on same footing as current licensees	o Destabilizes current licensees business environment
		o Discourages long-term business planning of UNIX use
Reset to zero—reduce prices	o Places new entrants on same footing as current licensees	o Somewhat destabilizing, especially to those about to "graduate" to a better discount category
	o Current licensees' royalties about the same (depending on amount of reduction)	o May encourage more small licensees
	o Encourage rapid volume build-up by new entrants	o May initially reduce revenue to Bell Labs

INPUT

ANALYSIS OF OPTIONS
(UNDERLINING = CRITICAL ISSUE)   -   CONT'D.

OPTION	POSITIVE EFFECTS	NEGATIVE EFFECTS
Contractual Dollar Volumes	o New entrants can qualify for <u>lowest royalty immediately</u> o Tie Bell Labs and licensees closer together o Places new entrants and current licensees on similar footing	o Risk to licensee

ANALYSIS OF OPTIONS
(UNDERLINING = CRITICAL ISSUE)   -   CONT'D.

OPTION	POSITIVE EFFECTS	NEGATIVE EFFECTS
Reduce prices (no reset to zero)	o Keeps business relationship stable between Bell Labs and licensees o Incentive to current licensees o Absolute incentive to new entrants	o New entrants remain at at relative disadvantage
Add more Dollar Volume Categories	o Increases volume incentive o Disincentive to build UNIX look-alike	o No immediate benefits to licensee
Time Period Discounts	o Future-oriented, to a degree o Places new entrants and current licensees on same footing	o Current licensees have a defacto advantage (current momentum)

LESSONS FROM THE HARDWARE MARKETPLACE

o   Similarities of display terminals and microcomputer operating systems

-   Large volumes

-   Products integrated into overall system

-   Manufacturers/OEMs are main market

-   Competitor compatibility (3270 - compatible, UNIX - compatible)

o   Display discount structure:

-   Steep discount curves

-   Dollar volumes based on specific time periods (usually one year)

-   Discounts based on contracted volumes

.   Discount usually lost if volumes not made

o   Dissimilarities

-   Rate of product obsolescence

-   Marginal manufacturing costs

RECOMMENDATIONS

o Retain existing per unit discount structure; lower break points to compensate for no longer including non-UNIX products.

- Will reduce apparent change, reassure current customer on stability of Bell Lab agreements

- Implicitly discourage small vendors

o Add more discount breakpoints

- Encourage new entrants (who will presumably contemplate high volumes)

- Negotiate royalties over $10 million to discourage in-house development or acquisition of UNIX look-alike

- See Exhibit C

o Allow discount volumes to be calculated on <u>either</u> cumulative dollar volumes <u>or</u> on contractual dollar volumes.

- Microprocessor vendors will be able to obtain immediate discount benefits (See Exhibit D & E)

- They will have incentives to reach high volumes

- They will be tied closer to UNIX

- Current vendors will not be penalized

- Discount incentives will be offered for both current and prospective customer bases

EXHIBIT C

PROPOSED SUBLICENSING ROYALTIES (PER UNIT)

BREAKPOINTS (CUMULATIVE ROYALTIES - UNIX ONLY) $MILL.

TARGET SYSTEM USERS	UNDER $1.0	$1 - 2	$2 - 3	$3 - 4	$4 - 5	$5 - 10	OVER $10
1	$ 100	$ 70	$ 40	$ 30	$ 20	$ 10	*
2-16	$ 250	$125	$ 50	$ 40	$ 25	$ 12	*
17-33	$ 750	$500	$250	$200	$150	$100	*
34-64	$3,500	------	------				
over 64	$7,000	------	------				

*Negotiable

EXHIBIT D

UNITS SOLD AT PROPOSED DOLLAR DISCOUNT PRICING

| | UNDER $1.0 MILL | BREAKPOINTS (CUMULATIVE ROYALTIES) | | | | | |
		$1-2 MILL	$2-3 MILL	$3-4 MILL	$4-5 MILL	$5-10 MILL	OVER 10 MILL
Weighted Royalty per unit	$130	$60	$42	$32	$21	$10	*
Units Sold (000)							
– Within breakpoint	8	17	23	31	48	500	
– Cumulative	8	25	48	79	127	527	

*Negotiable

INPUT

EXHIBIT E

DISCOUNT SCHEDULE FOR

CONTRACTUAL COMMITMENT (OVER TWO YEARS)

UNITS SOLD (000)	DISCOUNT FROM CUMULATIVE PRICE
Up to 25	15%
Up to 50	25%
Up to 100	30%
Up to 250	40%
Up to 500	50%
over 500	negotiable

o   Steep curve aimed at largest potential licensees.

RECOMMENDATIONS (CONT'D)

o Contracted dollar volumes should initially be for a period greater than one year.

- Display experience is not analogous since obsolescence is much less of a factor in operating systems software

- Five years is probably too long since the microcomputer marketplace is changed quickly

- A two year period will allow new entrants to build products and volume

o Announce that cumulative credits will be replaced by credits for specific time periods when annual shipment data is more stable.

- Interim incentive to increase sales

- Will make pricing policy more flexible and responsive

- Give sufficient lead time will allow licensees to plan

RISKS

o   Licensees with considerable non-UNIX royalties will find
    that their progress is slower, even through the new, closer
    break points.

o   Small volume licensees may see themselves at a competitive
disadvantage

    -   This may be a legal issue

    -   Since marginal costs are very small, almost any discount
        structure is defensible

o   Any pricing structure can be raided by look-alikes

    -   Their marginal costs are alos very low

    -   Closely related to value of UNIX name

o   In-house development of look-alike much lower risk (see
    next page)

IN-HOUSE DEVELOPMENT OF LOOK-ALIKE

o   Assumptions

    -   Cost: Between $2-10 million

    -   Time: At least one year

    -   Risk: Considerable

o   Market value: Unknown, but less than UNIX

o   Conclusions

    -   Acquisition of already-developed look-alike is much more
        likely than in-house development

CRITICAL ISSUE: MONETARY VALUE OF UNIX NAME

o   Main threat is undercutting by a look-alike, offering

    -   A product said to be as good or better

    -   A significant discount

o   Look-alikes lack luster sales are a significant incentive

o   How big does price gap have to be to affect UNIX?

    -   From software developers/OEMS standpoint?

    -   From end users standpoint?

o   What market research is available?

SUMMARY OF ADVANTAGES

o   General change of environment for current licensees.

o   Allows current licensees a discount growth path.

o   Gives new entrants incentives at least as strong as current
     licensees.

o   Introduces a forward-looking incentive.

o   Ties large licensees closer to Bell Labs.